

Low Power Computing in Gamma-Ray Astronomy

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Gamma-Ray Astronomy is an optimal test-ground for Low-Power Computing and High-Throughput Computing. On the one hand, ground based detectors for Gamma-ray Astronomy are the prototypes for distributed experiments, as single detectors may be scattered in an area of few square kilometres, and the capability of each unit to process, at least partially, its own data before sending them to the central data acquisition provides a key advantage. On the other hand, satellite-born detector needs low-power on-board and huge computing power facilities for the ground processing. The talk will present some applications in the field of Gamma-Ray Astronomy, ranging from a GPU chain to build the model that best represent the data acquired in space (by evaluating the Maximum Likelihood Ratio), to an FPGA/ARM architecture used to process images collected by Cherenkov telescopes on ground.

Presenter: BASTIERI, Denis (UNIPD and INFN)